TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

No. 233.

THE UNION PAPER-BAG MACHINE COMPANY AND SAMUEL CUPPLES, APPELLANTS,

vs.

MERRICK MURPHY AND R. W. MURPHY.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF MISSOURI.

FILED OCTOBER 14, 1875.

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1 In the circuit court of the United States for the eastern district of Missouri. In equity.

Be it remembered that heretofore, to wit, on the thirtieth day of April, A. D. 1873, the following appears of record, to wit:

THE UNION PAPER-BAG MACHINE CO. ET al., plaintiffs, *vs.* MERRICK MURPHY ET AL., DEFENDANTS. } In chancery.

This day come the plaintiffs, by their solicitors, and file their bill of complaint against the defendants in this cause; and, on motion of said solicitors, it is ordered that a subpœna in chancery be issued against said defendants, returnable to rules on the first Monday of June next.

The said bill of complaint so filed as aforesaid being in words and figures following, to wit:

Bill of complaint.

THE UNION PAPER-BAG MACHINE COMPANY and Samuel Cupples *vs.* MERRICK MURPHY AND R. W. MURPHY.

2 To the honorable judges of the circuit court of the United States in and for the eastern district of Missouri:

The Union Paper-Bag Machine Company, a corporation organized under the general laws of the State of Pennsylvania, and having its place of business at Philadelphia, in the said State, and Samuel Cupples, of S't Louis, in the State of Missouri, and a citizen of said State of Missouri, bring this bill against Merrick Murphy and R. W. Murphy, having their place of business at S't Louis, in the State of Missouri, and citizens of said State.

And thereupon your orators complain and say that heretofore and before the 28th day of April, 1857, one Benjamin F. Rice was the true, original, and first inventor of a certain new and useful improvement in machines for making paper bags, not known or used before, and not at the time of his application for a patent in public use or on sale with his consent or allowance.

3 And your orators further show unto your honors that on or about the 18th day of November, eighteen hundred and fifty-six, the said Benjamin F. Rice, by an assignment in writing of that date, sold, assigned, and transferred unto Benjamin R. Smith and Charles H. Morgan all of his right, title, and interest in and to said invention and any letters-patent therefor; which assignment was duly recorded in the Patent-Office of the United States, as by said assignment or a clearly authenticated copy thereof, and the certificate of such recording thereto affixed, already in court to be produced, will fully and at large appear.

And your orators further show unto your honor that the said Benjamin F. Rice, so being the inventor of said improvement, and being a citizen of the United States aforesaid, made application to the proper department of the Government of the United States for letters-
4 patent in accordance with the then existing acts of Congress; and having duly complied in all respects with the conditions and requisitions of said acts, on the 28th day of April, 1857, letters-patent of

the United States, signed, sealed, and executed in due form of law, for his invention or discovery, were issued to the aforesaid Benjamin R. Smith and Charles H. Morgan, whereby there were secured them, their heirs, executors, administrators, and assigns, for the term of fourteen years from the said 25th day of April, 1857, the full and exclusive right of making, using, and vending to others to be used, the said improvement.

And your orators further show unto your honor that on or about the first day of January, eighteen hundred and fifty-nine, the said Benjamin R. Smith, by an assignment in writing of that date, sold, assigned, and transferred unto the said Leonard Whitney, j'r, and Thurston
5 Priest, all his right, title, and interest in and to said letters-patent and invention, which assignment was duly recorded in the Patent-Office of the United States, as by said assignment or a duly-authenticated copy thereof and the certificate of such recording thereto affixed, ready in court to be produced, will fully and at large appear.

And your orators further show unto your honor that the said Morgan, Whitney, and Priest, having for good and lawful cause surrendered said last-mentioned original letters-patent to the Commissioner of Patents, and having made due application therefor, and having in all things complied with the acts of Congress in such case made and provided, did, on the 6th day of March, 1860, obtain new letters-patent for the same invention for the residue of said term of fourteen years; which said last-mentioned letters-patent were issued in due form of law, under
6 the seal of the Patent-Office of the United States, signed by the Secretary of the Interior, and countersigned by the Commissioner of Patents, and bearing date the day and year last aforesaid, as by the said last-mentioned letters-patent, or a duly-authenticated copy thereof, in court to be produced, will appear.

And your orators further show that a description or specification of the aforesaid improvement was given in the schedule to the said last-mentioned re-issued letters-patent annexed, accompanied by certain drawings, referred to in said last-mentioned schedule, and forming part of said last-mentioned re-issued letters-patent; that the said last-mentioned re-issued letters-patent, and the said specification thereto annexed, (which, or an exemplified copy of which, your orator will produce as your honors may direct,) were duly recorded in the Patent-Office.

7 And your orators further show unto your honors that the said Benjamin F. Rice having died, letters of administration on his estate were duly granted to Roxanna Rice, as by the said letters of administration or an exemplified copy thereof, ready in court to be produced, will more fully and at large appear.

And your orators further show unto your honors that the said Roxanna Rice, administratrix, having made application to the Commissioner of Patents for an extension of said re-issued letters-patent, and having in all things complied with the requirements of the act of Congress in that case made and provided, the said re-issued letters-patent were duly extended by the Commissioner of Patents for the term of seven years from the 28th day of April, 1871, a duly-authenticated copy of which letters-patent, with the certificate of such extension thereto
8 affixed, is hereunto annexed and marked "Exhibit A."

And your orators further show unto your honors that on or about the 24th day of April, eighteen hundred and seventy-one, the said Roxanna Rice, administratrix, by an assignment in writing of that date, sold, assigned, and transferred unto your orator the Union Paper-Bag Machine Company all her right, title, and interest in and to said letters-

patent and invention, which assignment was duly recorded in the Patent-Office of the United States, as by said assignment, or a duly-authenticated copy thereof, and the certificate of such recording thereto affixed, ready in court to be produced, will fully and at large appear.

And your orators further show unto your honors that on or about the 27th day of June, A. D. 1871, your orator the Union Paper-Bag Machine Company, by an instrument in writing of that date, granted
9 and confirmed unto your orator Samuel Cupples the exclusive right to use machines constructed in accordance with the aforesaid letters-patent within certain territory, including the State of Missouri, which instrument was duly recorded in the Patent-Office of the United States, and a certified copy thereof is annexed to this bill and marked "Exhibit B."

And your orators further show unto your honors that, at a stated term of the circuit court of the United States for the southern district of the State of New York, a bill in equity was filed in the said court by your orators against George L. Newell and George H. Mallary, for infringement of the aforesaid letters-patent granted to the said Benjamin F. Rice; and that the said Newell and Mallary in their answer denied the validity of the said letters-patent, alleging that the improvement therein described and claimed had been known and used by others before the invention thereof by the said Benjamin F. Rice;
10 that the testimony was taken in the said cause on behalf of both parties thereto; that the said cause came before the said court at a stated term thereof, held at the United States court-room, in the city of New York on Tuesday, the 17th day of December, 1872, on final hearing on the pleadings and proofs; and that after argument by counsel, the opinion of the court was delivered and a decree entered, a copy of which decree is hereto annexed, marked "Exhibit C."

And your orators further show that your orators have extensively applied the said improvement to practical use, and have been, and but for the infringement hereinafter complained of would still be, in the undisturbed possession, use, and enjoyment of the exclusive privileges secured by the said letters-patent and in receipt of the profits of the same.

And your orators further show unto your honors, as they are informed and believe, that the said defendants hereinafter named, well
11 knowing all the facts hereinbefore set forth, are now constructing and using the said patented improvement, or a machine in some parts thereof substantially the same in construction and operation as in the said letters-patent mentioned, the exclusive right and privilege to make and use which, and vend the same to others to be used, is thus by law vested in your orators.

And so it is, may it please your honors, that the said defendants, as your orators are informed and believe, without the license of your orators, against their will and in violation of their rights, have made and used, and intend to continue still to make and use, the said improvement within the eastern district of Missouri, all of which is in violation of the said letters-patent.

To the end, therefore, that the defendants may, if they can, show reason why your orators should not have the relief hereby prayed, and that they may make a full disclosure and discovery of all
12 the matter aforesaid, and upon their several corporal oaths, and, according to the best and utmost of their knowledge, remembrance, information, and belief, full, true, direct, and perfect answer make to such of the several interrogatories hereinafter numbered and

set forth as by the note hereunder written they are required to answer, that is to say:

1. Whether the said original letters-patent were granted and issued to the said Benjamin R. Smith and Charles H. Morgan, as assignees of the said Benjamin F. Rice, hereinbefore set forth.

2. Whether the said last-mentioned original letters-patent were re-issued to the said Morgan, Whitney, and Priest, assignees, as hereinbefore set forth.

3. Whether the said re-issued letters-patent were extended and assigned to the said Union Paper-Bag Machine Company, as hereinbefore set forth.

4. Whether the exclusive right under the said letters-patent
13 for the State of Missouri was granted to the said Samuel Cupples, as hereinbefore set forth.

5. Whether the said defendants, or either of them, and which, have at any time, and when and during what period of time, made, sold, or used any, and how many, machines for making paper bags, constructed in whole or in part upon the principles and in the manner described in said letters-patent, and when and how they were made; describe minutely and in detail their construction and mode of operation.

And now, to the end that the defendants may be compelled to account for and pay over the income thus unlawfully derived from the violation of the rights of your orators as above, and be restrained from any further violation of said rights, your orators pray that your honors may grant a writ of injunction, restraining the defendants from any further construction or sale, or use in any manner, of said patented im-
14 provement, or any part thereof, in violation of the rights of your orators as aforesaid, and that the machine or machines now in possession or use of the said defendants may be destroyed or delivered up to your orators for that purpose. And also that your honors, upon the entering of the decree for an infringement, as above prayed for, may also proceed to assess or cause to be assessed under your directions, in addition to the profits to be accounted for by the defendants as aforesaid, the damages your orators have sustained by reason of such infringements, and that your honors may increase the actual damages so assessed to a sum equal to three times the amount of such assessment, under the circumstances of the willful and unjust infringement by the said defendants, as herein set forth. And your orators pray also for a provisional or preliminary injunction, and for such other re-
15 lief as the equity of the case may require and to your honors may seem meet.

May it please your honors to grant unto your orators, not only by a writ of injunction conformable to the prayer of this bill, but also a writ of subpœna of the United States of America, directed to the said Merrick Murphy and R. W. Murphy, and commanding them to appear and answer unto this bill of complaint, and to abide and perform such order and decree in the premises as to the court shall seem meet and be required by the principles of equity and good conscience.

KRUM & PATRICK AND
GEORGE HARDING,
Solicitors for Complainants & of Counsel.

The defendants are required to answer each of the foregoing interrogatories, numbered 1 to 5 inclusive.

KRUM & PATRICK AND
GEORGE HARDING,
Solicitors for Complainant'.

UNITED STATES OF AMERICA,
Eastern District of Pennsylvania, ss:

Edwin J. Howlett, president, and John P. Onderdonk, secre-
16 tary, of the Union Paper-Bag Machine Company, one of the complainants in the foregoing bill named, being duly sworn, say that so far as the statements therein contained are within their own knowledge they are true, and so far as they are derived from the information of others they verily believe them to be true. And they further say that they verily believe the said Benjamin F. Rice, in said bill named, to be the original, true, and first inventor of the new and useful improvement in machines for making paper bags which is described in the letters-patent granted to the said Benjamin R. Smith and Charles H. Morgan, mentioned in the foregoing bill. And your deponents verily believe that the title of complainants, as set forth in said bill, is true.

EDWIN J. HOWLETT, *President.*
JNO. P. ONDERDONK, *Secretary.*

Sworn and subscribed this eighth day of April, A. D. 1873, before me.

[SEAL.] W. GRIER KIBLER,
U. S. Commissioner.

17 And on the said thirtieth day of April, A. D. 1873, a subpœna in chancery was issued in said cause, in words and figures following, to wit:

Subpœna in chancery.

EASTERN DISTRICT OF MISSOURI, *sct:*

The President of the United States to Merrick Murphy and R. W. Murphy, greeting:

You are hereby commanded to be and appear at rules to be held at the office of the clerk of the circuit court of the United States for the eastern district of Missouri, on the first Monday of June next, at the city of S't Louis, then and there to answer the bill of complaint of the Union Paper-Bag Machine Company, a corporation organized under the general laws of the State of Pennsylvania, and Samuel Cupples, a citizen of the State of Missouri, filed against you on the thirtieth day of April, 1873. Hereof fail not.

Witness the honorable Salmon P. Chase, Chief-Justice of the United States, the thirtieth day of April, 1873.

Issued at office, in the city of S't Louis, under the seal of said
18 court, the day and year last aforesaid.

[SEAL.] AUSTIN DRAKE, *Clerk,*
By H. C. GEISBERG, *Deputy.*

MEM.—The defendants to enter their appearance in this suit in the clerk's office, on or before the day at which the writ is returnable; otherwise the bill may be taken pro confesso.

AUSTIN DRAKE, *Clerk,*
By H. C. GEISBERG, *Deputy.*

On which said writ appears the following return of service, to wit:

UNITED STATES OF AMERICA,
Eastern District of Missouri, ss:

I return this writ executed by delivering a copy of the petition, together with a copy of the summons, to the within-named Merrick

Murphy this 8th day of May, 1873, and a copy of the summons to the within-named R. W. Murphy this 12th day of May, A. D. 1873, at S't Louis, within said eastern district of Mo.

C. A. NEWCOMB,
U. S. Marshal E. D. Mo.,
By C. F. NEWCOMB, *Deputy*.

19 And afterwards, to wit, on the 31st day of May, A. D. 1873 the following appears of record, to wit:

THE UNION PAPER-BAG MACHINE CO. et al., plaintiffs,
vs.
MERRICK MURPHY et al., defendants. } In chancery.

Appearance.

This day come the defendants, by Samuel S. Boyd, esquire, their solicitor, and enter their appearance in this cause.

And afterwards, to wit, on the 5th day of July, A. D. 1873, the following appears of record, to wit:

THE UNION PAPER-BAG MACHINE CO. et al., plaintiffs,
vs.
MERRICK MURPHY et al., defendants. } In chancery.

This day come the parties, by their respective solicitors, and a motion for a preliminary injunction against said defendants, as prayed in plaintiffs' bill, coming on to be heard before the honorable Samuel Treat, one of the judges of this court, the same was argued by counsel, and sub-
20 mitted; on consideration whereof, and being fully advised in the premises, the said judge now hereby directs and orders that the defendants, Merrick Murphy and R. W. Murphy, keep a strict account, until the further order of this court, of the number of paper bags manufactured by them as described in said bill, and of the profits realized by them from such manufacture.

And afterwards, to wit, on the 13th day of August, A. D. 1873, the following appears of record, to wit:

THE UNION PAPER-BAG MACHINE CO. et al., plaintiffs,
vs.
MERRICK MURPHY et al., defendants. } In chancery.

This day come the defendants, by their solicitor, and by consent of solicitors for said plaintiffs file their answer to the bill of said plaintiffs; to which answer the plaintiffs file their replication.

The said answer, so filed as aforesaid, being in words and fig-
21 ures as follows, to wit:

Answer.

Circuit court of the United States in and for the eastern district of Missouri. In equity.

UNION PAPER-BAG MACHINE COMPANY AND als., compl'ts,
vs.
MERRICK MURPHY AND R. W. MURPHY, defendants.

To the honorable the judges of the circuit court of the United States in and for the eastern district of Missouri:

The joint and several answer of Merrick Murphy and Rufus W. Murphy, defendants, to the bill of complaint of the Union Paper-Bag Machine Company and Samuel Cupples, complainants:

These defendants, now and at all times hereafter saving and reserving to themselves and each of them all benefit and advantage of exception which can or may be had or taken to the many errors, uncertainties, and other imperfections in the said complainants' said bill of complaint con-
22 tained, for answer thereunto, or unto so much and such part as these defendants are advised is or are material or necessary for them or either of them to make answer unto, they, these defendants, severally answering, say that they admit, on information and belief, that the patent and the re-issue and extension thereof, as in said bill set forth, were granted in the manner and to the parties and for the purpose and at the several dates as set forth in said bill. But these defendants deny that the said Benjamin F. Rice was the first and original inventor of the inventions shown, described, and claimed in the said re-issued patent, and they also deny that the said re-issued patent is for the same invention as was originally patented or intended to be patented to the said Benjamin R. Smith and Charles H. Morgan, or that the said re-issue is good and valid for any purpose whatever.

Respondents, further answering, deny any knowledge, informa-
23 tion, and belief in respect to each and all the assignments in the bill of complain'ts alleged, and leave the complainants to make such proof of the same as they may be advised.

Further answering, respondents *say* that specification forming part of said re-issued patent is in such full, clear, and exact terms as to enable any person skilled in the art to which said pretended invention relates to construct the said machine purporting to be described therein, but, on the contrary, these respondents aver that such specifications are so imperfect, uncertain, and ambiguous that the machine or invention undertaken to be described therein could not be constructed from such description, when aided by the drawings annexed thereto, by a person skilled in the art, without the application of the skill of the inventor.

And, further answering, these defendants say that they deny that the machine described in the said letters-patent as the invention
24 of the said Rice is capable of any useful application, or that it is possible to make paper bags upon said machine as it is described and shown in said letters-patent, and they deny that the complainants have ever applied the said improvements to practical use, or that they have at any time made, constructed, or used any machine such as that claimed to be described in said letters-patent, or that they have ever derived any profit whatever from the manufacture, sale, or use of same.

These defendants, further answering, deny that they or either of them have at any time hitherto, or are now making, constructing, using, or vending to others to be used, the said pretended invention, or any machine or machines in any part thereof substantially the same in construction and operation as in the said letters-patent mentioned, or constructed in whole or in part upon the principles in the manner described in said letters-patent.

25 Further answering, these defendants admit that they have manufactured and used, and are now using, a machine for making paper bags, but they deny that the said machine so made and now being used by them is the same as, or an imitation of, or substantially of the same construction or operation as the machine mentioned in said letters-patent; but, on the contrary, they aver said machine to be substantially different from the machine claimed by said complainants by virtue of said letters-patent, and that the same is made substantially in accordance with, and the right to make and use and sell the same is secured by, the letters-patent of the United States granted to the defendant Merrick Murphy for "improvement in paper-bag machines," the same bearing date January twenty-first, A. D. 1873, and numbered 135145, as will more fully appear by said patent, or a duly-authenticated

26 copy thereof, which will be shown to your honors, and to which, for greater certainty, these defendants crave leave to refer.

Further answering, these defendants aver, on information and belief, that not only was the said Benjamin F. Rice not the first and original inventor of the said invention, or of any material part thereof, as shown and described in said letters-patent, but they further allege, on such information and belief, that long prior to the date of the alleged invention of said Benjamin F. Rice the same was well known and used in the United States of America, in the following places, and such use was known to the following persons, to wit:

In a certain house on the north side of Callowhill street, east of Sixth street, in the city and county of Philadelphia, State of Pennsylvania, and such use was known, among other persons, to Horatio G. Armstrong, then residing and having his place of business in said

27 house, but now residing at No. 53 West Front street, in the city of Trenton, in the State of New Jersey.

Also at Catlettsburg, Greenup County, in the State of Kentucky; also, at South Dedham, in the State of Massachusetts, such use being known, among others, to Richard G. Hunting, who now resides at No. 14 Perry street, in the city of Cincinnati, State of Ohio.

Also at a certain house on Front street, near Broadway street, in the city of Cincinnati, State of Ohio, such use being known, among others, to Samuel W. Smith, who now resides at No. 406 Sixth street, in said city of Cincinnati.

Also at Deacon Parker's shop, in Clinton, Worcester County, State of Massachusetts, at the house of Edward W. Goodale, opposite the machine-shop of Clinton Company, on Main street, in said Clinton, such use being known to the said Edward W. Goodale, who now resides in the town of Clinton, county of Clinton, State of Iowa, and to

28 William Goodale, who now resides in Clinton, Worcester County, State of Massachusetts, the street on which he lives having no name, but his house is in Kendall's block, on the east side of Quilt Mill Pond.

Also at Fuller's mill, in Clinton, Worcester County, State of Massachusetts, such use being known to John A. Smith, who now resides in Walden, Caledonia County, State of Vermont.

Respondents, further answering, say that prior to any alleged invention of the said Benjamin F. Rice, the said "improvements in machines for making paper bags," set forth and claimed in the letters-patent upon which the bill of complaint herein is founded, was fully described and shown in the following letters-patent of the United States, to wit:

Letters-patent granted to John A. Smith and S. E. Pettee for "machine for making paper bags and envelopes," the same bearing date May 1, 1855, and numbered 12786.

Letters-patent granted Francis Wolle for "machine for making
29 paper bags," the same bearing date October 26, 1852, and numbered 9355.

Letters-patent granted Francis Wolle, for "machine for making paper bags," the same bearing date May 29, 1855, and numbered 12982.

Letters-patent granted E. W. Goodale, for "improved machine for making paper bags," the same bearing date May 21, 1856, and numbered 12945.

Letters-patent granted E. W. Goodale, for "improvement in machines for making paper envelopes," the same being numbered 13647, and bearing date October 9, 1855, and having been re-issued April 16, 1861, and numbered 65.

Also in the following English letters-patent, to wit:

Letters-patent granted to Jame' Cox, for "improvement in knives for cutting paper and other materials," the same bearing date February 13, 1854, and numbered 347.

Letters-patent granted William Brown, for "improvement in the manufacture of paper bags," the same bearing date August 25,
30 1855, and numbered 1926.

All of which will more fully appear in and by duly-authenticated copies of the said several letters-patent, which will be produced to your honors, and to which for greater certainty these respondents crave leave to refer at the hearing herein.

And these respondents humbly submit and insist that, under the facts and circumstances as above alleged, the said complainants have no right to any further or other answer to said bill, or any part thereof, than is above given, and no right of injunction, account, or other relief prayed for in said bill; and they, therefore, ask to be hence dismissed with their reasonable costs and charges in this behalf most wrongfully sustained.

MERRICK MURPHY.
R. W. MURPHY.

SAM'L S. BOYD,
Respondents' Solicitor.

UNITED STATES OF AMERICA,
Eastern District of Missouri, ss:

31 On this seventh day of August, A. D. 1873, personally appeared Merrick Murphy and Rufus W. Murphy, the respondents above named, who, being by me severally sworn, severally depose and say that they have heard the above and foregoing answer read and know the contents thereof, and that the same is true of their own knowledge, except as to those matters which are therein stated on information and belief, and as to these matters they verily believe it to be true.

MERRICK MURPHY.
R. W. MURPHY.

Subscribed and sworn to before me the day and year last above written.

[SEAL.] CHA'S D. MOODY,
Notary Public in and for St Louis County, State of Missouri.

The said replication, filed as aforesaid, is in words and figures following, to wit:

Circuit court of the United States in and for the eastern district of Missouri.

32 UNION PAPER-BAG MACHINE COMPANY and als., compl'ts, *vs.* MERRICK MURPHY AND R. W. MURPHY, def'ts. } In equity.

To the honorable the judges of the circuit court of the United States in and for the eastern district of Missouri:

The replication of the Union Paper-Bag Machine Co. and Samuel Cupples, complainants, to the answer of Merrick Murphy and R. W. Murphy, defendants.

These repliants, saving and reserving unto themselves all and all manner of advantage of exception to the manifold insufficiencies of the said answer, for replication thereunto saith that they will aver and prove their said bill to be true, certain, and sufficient in the law to be answered unto, and that the said answer of the said defendants
33 is uncertain, untrue, and insufficient to be replied unto by this repliant; without this, that any other matter or thing whatsoever in the said answer contained, material or effectual in the law to be replied unto, confessed and avoided, traversed or denied, is true; all which matters and things these repliants are and will be ready to aver and prove, as this honorable court shall direct, and humbly prays as in by their said bill they have already prayed.

KRUM & PATRICK,
Sol's for Complainants.

And afterwards, to wit, on the third day of April, A. D. 1874, the following appears of record, to wit:

UNION PAPER-BAG MACHINE CO. ET AL., plaintiffs, *vs.* MERRICK MURPHY ET AL., DEFENDANTS. } In chancery.

This day come the defendants, by their solicitor, and, by leave of court, file their amended answer to the bill herein; and, by con-
34 sent of plaintiffs' solicitor, it is ordered that the replication heretofore filed stand as the replication of said plaintiffs to said amended answer. It is further ordered that the time for taking testimony be extended for thirty days from the sixth day of April next.

Said amended answer, so filed as aforesaid, being in words and figures following, to wit:

Circuit court of the United States within and for the eastern district of Missouri.

THE UNION PAPER-BAG MACHINE CO. AND als., complainants,
vs.
MERRICK MURPHY AND RUFUS W. MURPHY, defendants.
} In equity.

To the honorable judges of the circuit court of the United States in and for the eastern district of Missouri:

The joint and several amended answer of Merrick Murphy and Rufus W. Murphy, the above-named defendants, to the bill of com-
35 plaint of the Union Paper-Bag Machine Company and Samuel Cupples, complainants.

These defendants, by leave of this honorable court first had and obtained, amend their answer, heretofore filed in this cause, by inserting on page four of said original answer, and between the second and third lines thereof, the following:

"And the letters-patent for 'improvement in paper-bag machines' granted said defendant Merrick Murphy January 27, A. D. 1874, and numbered 146774."

And these respondents pray as they have prayed in their original answer.

MERRICK MURPHY.
R. W. MURPHY.

SAM'L S. BOYD,
Defendants' Solicitor.

UNITED STATES OF AMERICA,
Eastern District of Missouri, ss:

On the 3d day of April, A. D. 1874, personally appeared Merrick Murphy and Rufus W. Murphy, the respondents above named,
36 who, being by me personally sworn, depose and say that they have heard the above and foregoing answer read and know the contents thereof, and that the same is true of their own knowledge.

MERRICK MURPHY.
R. W. MURPHY.

Subscribed and sworn to before me the day and year last above written.

[L. S.] CHA'S D. MOODY,
Notary Public, County of S't Louis, State of Missouri.

And afterwards, to wit, on the 19th day of August, 1874, the defendants, by consent, filed the following supplemental answer, to wit:

United States circuit court, eastern district of Missouri.

UNION PAPER BAG-MACHINE CO. ET AL.
vs.
MERRICK MURPHY ET AL.
} Equity.

And now at this day come the defendants above named, and, by consent of counsel, file this their supplemental answer.

These defendants, jointly and severally, admit that since the time

37 of filing their original answer herein they have changed the cutting-knife used by them in the machines for making paper bags admitted by them in their said answer to have been used as therein stated; and since the 10 day of November, A. D. 1873, they admit they have used in said machines a lower knife, in all respects the same in construction and operation as the knife described and shown in the letters-patent of the United States granted the defendant R. W. Murphy on the 27th day of January, A. D. 1874, and numbered 146776; that they are still using the same, and since said date have used none other, but they deny that said knife is the same as, or substantially the same as, or an imitation of, the knife described in complainants said letters-patent, but on the contrary they aver the same to be entirely different therefrom in construction and operation, and that by the use thereof in their said machines they have infringed upon no right secured or intended to be secured in said complainants by virtue of their said letters-patent, as will more fully and clearly appear in and by the letters-patent of said R. W. Murphy above referred to, or a duly authenticated copy thereof to be produced at the hearing hereof.

38 Wherefore these defendants, praying the full benefit of their former answers filed herein, submit that said complainants have no right of injunction, account, or other relief prayed for in their said bill, and they ask to be hence dismissed, as heretofore prayed.

MERRICK MURPHY.
R. W. MURPHY.

SAM'L S BOYD,
Resp'dts' Sol'r.

UNITED STATES OF AMERICA,
Eastern District of Missouri, ss:

On this 18 day of August, A. D. 1874, personally appeared Merrick Murphy and Rufus W. Murphy, the respondents above named, who, being by me severally sworn, severally depose and say that they have heard the above and foregoing supplemental answer read, and know the contents thereof; that the same is true of their own knowledge, except as to those matters as are therein stated on information and belief, and as to those matters they verily believe it to be true.

MERRICK MURPHY.
R. W. MURPHY.

Subscribed and sworn to before me the day and year last above written.

CHA'S D. MOODY,
39 *Notary Public in and for County of St Louis, State of Missouri.*

And afterwards, to wit, at the September term, 1874, of said circuit court, and on the 28th day of October, the following appears of record in said cause, to wit:

UNION PAPER-BAG MACHINE CO. ET AL., PL'FFS, *vs.* MERRICK MURPHY ET AL., DEFENDANTS. } No. 124. In chancery.

UNION PAPER-BAG MACHINE CO. ET AL., PLAINTIFFS, *vs.* MERRICK MURPHY ET AL., DEFENDANTS. } No. 149. In chancery.

This day come the parties in the above causes by their respective solicitors, the plaintiffs by John M. Krum, esquire, and the defendants

by Samuel S. Boyd, esquire; and thereupon said solicitors file a stipulation that said causes may be heard together; and said causes coming on to be heard on the bills, answers, replications, stipulations, and proofs, the same were argued by counsel, and the argument thereof not having been concluded at the hour of adjournment, it is ordered that further proceedings therein be continued until to-morrow morning.

40 And afterwards, to wit, at the same term of said court, and on the 28th day of October, 1874, the following appears of record in said cause, to wit:

UNION PAPER-BAG MACHINE CO. ET AL., PLAINTIFFS, *vs.* MERRICK MURPHY ET AL., DEFENDANTS. } In chancery.

This cause coming on to be heard at this term, and having been heretofore argued by counsel and submitted to the court upon the pleadings and proofs, on consideration whereof, and the court being fully advised in the premises, it is ordered, adjudged, and decreed that the preliminary injunction heretofore entered herein be, and the same is hereby, dissolved; and it is further ordered, adjudged, and decreed that the bill of said plaintiffs be, and the same is now hereby, dismissed.

It is further ordered that said plaintiffs pay the costs herein expended, and that execution be issued therefor.

The testimony in this cause is certified in the case under the same style, as per stipulation.

And afterwards, to wit, at the same term of said court, and on the 30th day of October, 1874, the following further proceedings were had in said cause, to wit:

41 UNION PAPER-BAG MACHINE CO., PL'FFS, *vs.* MERRICK MURPHY ET AL., DEFENDANTS. } In chancery.

This day come said plaintiffs, by their solicitor, John M. Krum, esquire, and pray an appeal from the decree heretofore entered in this cause to the Supreme Court of the United States, which appeal is allowed. Thereupon said plaintiffs present a bond, with surety, as required upon the allowance of such appeal, and said bond is by the court approved and ordered to be filed and made a part of the record herein.

The said bond so filed and approved as aforesaid is in words and figures following, to wit:

Bond.

Know all men by these presents that we, Samuel Cupples, as principal, and William Brown, as security, are held and firmly bound unto Merrick Murphy and Rufus W. Murphy in the full and just sum of one thousand dollars, to be paid to the said Merrick Murphy & Rufus W. Murphy, their heirs, executors, administrators, or assigns; to which payment, well and truly to be made, we bind ourselves, our heirs, executors, and administrators, jointly and severally, by these
42 presents, sealed with our seals, and dated this 31st day of Octo-

ber, in the year of our Lord one thousand eight hundred and seventy-four.

Whereas lately, at the September term, 1874, of the circuit court of the United States for the eastern district of Missouri, in a suit depending in said court between Union Paper-Bag Machine Company and Samuel Cupples, plaintiffs, and Merrick Murphy and Rufus W. Murphy are defendants in chancery, judgment was rendered against the said plaintiffs, and their bill of complaint was dismissed by the judgment and decree of said court, and the said plaintiffs having appealed from the judgment and decree in the aforesaid suit, and a citation directed to the said defendants having issued in due form of law, citing and admonishing them to be and appear at a Supreme Court of the United States, to be holden at Washington the second Monday of October next:

Now, the conditions of the above obligation is such that if the said Union Paper-Bag Machine Company and Samuel Cupples, the said appellants, shall prosecute their said appeal to effect, and answer all
damages and costs if they fail to make good their appeal *plea*,
43 then this obligation to be void; else to remain in full force and virtue.

SAMUEL CUPPLES. [SEAL.]
WM BROWN. [SEAL.]

Approved by—

SAMUEL TREAT, *Judge.*

UNITED STATES OF AMERICA,
Eastern District of Missouri, ss:

I, M. M. Price, clerk of the circuit court of the United States in and for the eastern district of Missouri, in obedience to the order of said court, and in pursuance to a stipulation filed herein, transmit to the Supreme Court of the United States a full and complete transcript of the record, and such portions of the proceedings in said cause as are covered by said stipulation.

In witness whereof I have hereto subscribed my name and affixed the seal of said court, at office in the city of S't Louis, this 17th day of September, A. D. 1875.

[SEAL.]

M. M. PRICE, *Clerk*,
By M. WARD, *Deputy.*

KRUM & MEADILL,
Att'ys for Pl'ff in Error.

(Indorsement on cover:) No. 233. The Union Paper-Bag Machine Company and Samuel Cupples, appellants, vs. Merrick Murphy & R. W. Murphy. E. Missouri C. C. U. S. Filed 16th October, 1875.

Supreme Court of the United States

No. 282.

UNION PAPER BAG MACHINE CO. AND SAMUEL CUPPLES, Appellants,

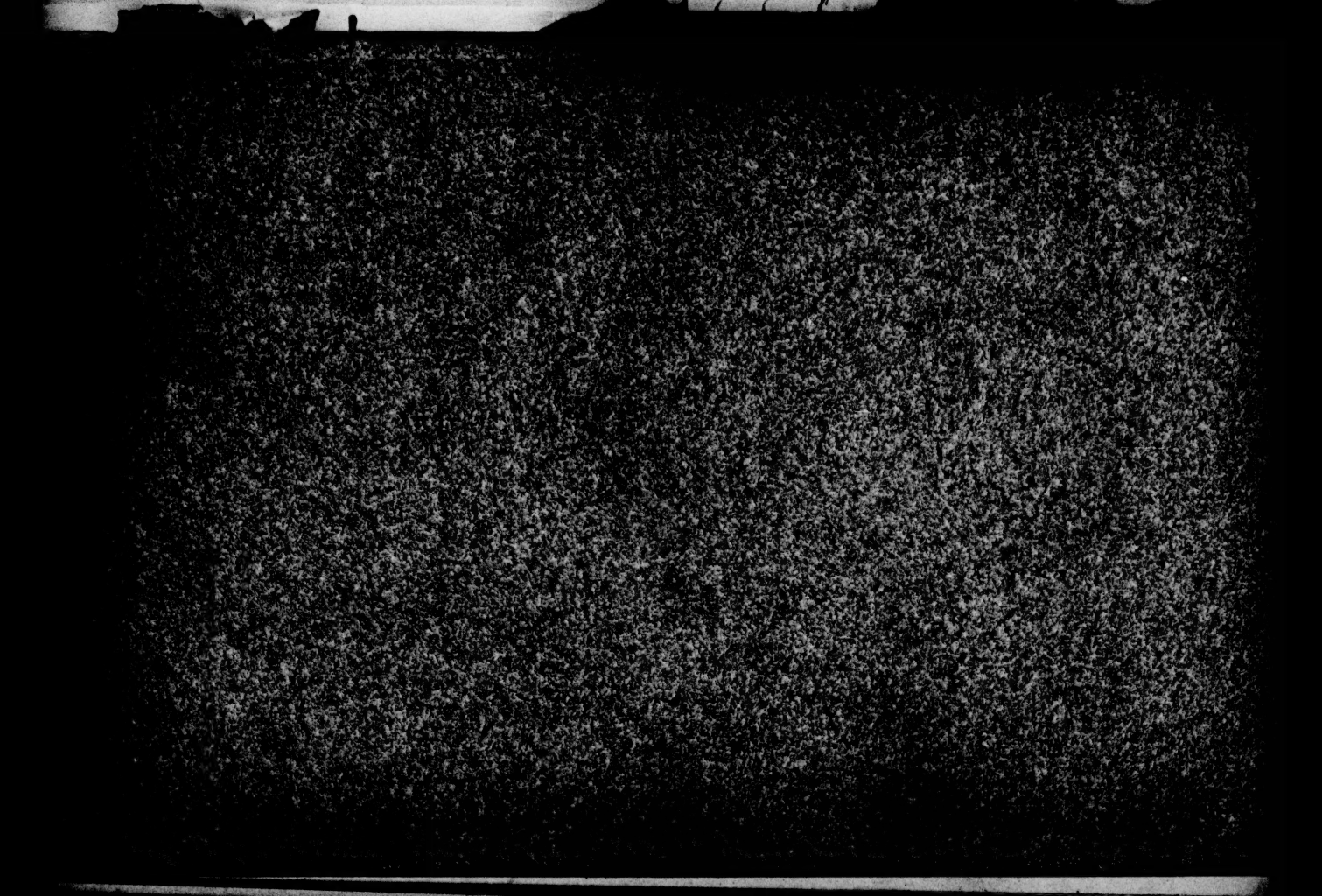
v.

MERRICK MURPHY AND R. W. MURPHY, Appellees.

APPELLANTS' BRIEF.

Appeal from the Circuit Court of the United States for the Eastern District of Missouri.

GEORGE HARDING,
Counsel for Appellants.



Supreme Court of the United States,

No. 232.

UNION PAPER BAG MACHINE COMPANY AND SAMUEL CUPPLES, Appellants,

vs.

MERRICK MURPHY AND R. W. MURPHY, Appellees.

APPELLANTS' BRIEF.

Appeal from the Circuit Court of the United States for the

ASSIGNMENT OF ERROR.

The Appellants assign for error that the Court below dismissed the plaintiff's bill on the ground that defendants did not infringe.

1855; William Brown, August 25, 1355; E. W. Goodale, October 9, 1855; B. R. Smith and C. H. Morgan, assignees of B. T. Rice, April 28, 1857; Henry R. David, October 5, 1858; anticipate Goodale's invention.

The Court below dismissed the bill of complaint on the ground that there was no infringement by appellees.

STATE OF THE ART.

PRIOR PATENTS.

1st. U. S. Patent granted Francis Wolle, October 26, 1852.

He made bags from a continuous roll of paper, in the flat, the width of the paper being the depth of the bag. Sufficient paper was first cut off for the bag, after which a piece of waste paper was cut from each blank at *a*, as shown below in figure 1. The blank was then folded over in the dotted line *b*, as shown in figure 2.

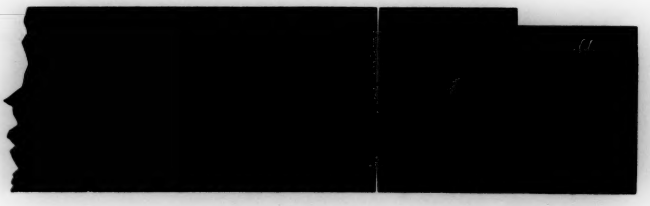


Figure 1.

Figure 2.

2d. English Patent granted James Cox, February 13, 1854, (Exhibit F), entitled "Improvement in Knives for

Cutting Paper," their cutting edges being in three vertical planes.

"The sheets are to be sufficiently large to form two bags, so that the portion which is cut out of one sheet is left on the other, and vice-versa. The angled cut is effected vertically throughout the entire pile of paper," as shown in figure 3.

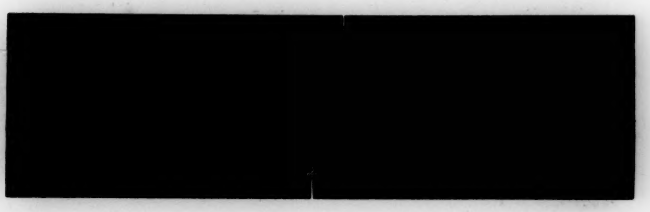


Figure 3.

Each of the two blanks into which each sheet of paper is severed, is then folded into a bag, as shown in figure 4.

Figure 4.

3d. U. S. Patent granted Smith and Pettee, May 1, 1855. (Exhibit G.)

"For folding and pasting bags from blanks previously cut "according to pattern" from separate and distinct pieces of paper, into the shape shown in figure 5.

Figure 5.

The pieces so cut are folded into a bag, as shown in figure 6.

Figure 6.

U. S. Patent granted to Francis Wollie, May 29th, 1855. (Exhibit H.)

Made bags from a *roll* of paper of the same character as shown in figure 1 and 2.

4th. U. S. Patent granted to E. W. Goodale, May 29, 1855. (Exhibit J.)

He made bags from a *roll* of paper by severing the blanks by two side cuts, a, b, and one cross shear cut, c, into the following shape, as shown in figure 7.

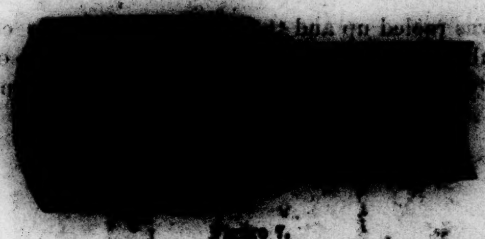


Figure 7.

The blank was then folded as shown in figure 8.

Figure 8.

5th. English Patent granted Wm. Brown, August 25, 1855. (Exhibit K.)

He made a long tube, as shown in figure 9.

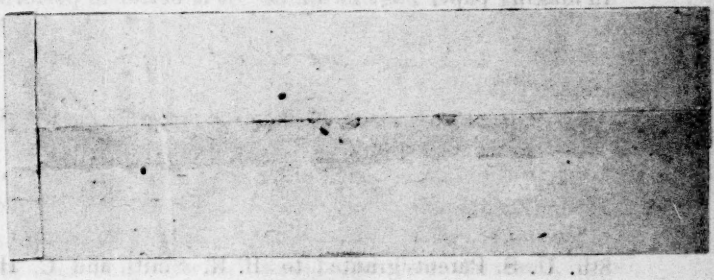


Figure 9.

which was reeled up and then it was afterwards cut into short tubes for bags, and a narrow ribbon or strip of paper was pasted across the bottom of each, as shown in figure 10.

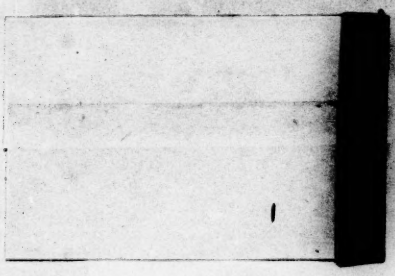


Figure 10.

U. S. Patent granted E. W. Goodale, April 9, 1855. Exhibit L.

"This invention consists in certain novel devices, and in certain arrangements and combinations of known devices, by which a piece of plain paper of proper form may be made into a perfect envelope, either plain or embossed with stamp and with gluten for self sealing."
* * * The said blanks being supposed to be cut to proper form before being introduced into the machine * * *

In making paper bags he states "it is better to perform the cutting of the paper from the roll * * by shears such as are described in my Letters Patent of May 29, 1855 * * which cut a blank, as shown in figure 7.

7th U. S. Patent granted H. R. David, October 5, 1858. (Exhibit O.)

He used knives to cut two paper blanks out of sheets of paper in a pile in a way similar to Cox, *ante Fig. 3*, and the blanks were folded in like manner.

8th. U. S. Patent granted to B. R. Smith and C. H. Morgan, assignees of B. F. Rice, April 28, 1857. (Exhibit M.)

They formed the paper from a roll into tubes, closed at the side, and then severed them into paper bag lengths with an oblique vibrating knife over a central distender or supporting bar, whereby one side was made longer than the other, as shown below in figure 11.

Figure 11.

so that, when pasted, a bag like figure 12 was produced.

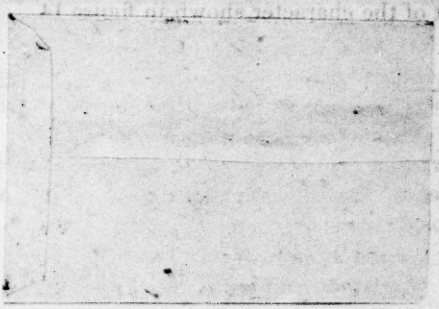


Figure 12.

with a closed bottom instead of a bag like figure 13, with an open bottom, which would have been the result, if both sides of the tube had been cut off the same length.

Figure 13

Wm. Goodale's U. S. Patent, (complainant's exhibit, No. 7), the one on which the present suit is brought, is, as follows, I claim:

1st. Making the cutter which cuts the paper from the roll or piece of the form herein described, that in cutting off the paper, it also cuts it to the required form to fold into a bag without further cutting out.

Goodale was the first person to make paper bags *from a roll of paper* in the flat sheet, by a transverse cut across the flat sheet of the character shown in figure 14.

Figure 14.

so that when each blank, so cut, was folded, it would present appearance shown in figure 15, and make a closed bottom bag.

Figure 15.

To make his blanks out of the roll, he employed in connection with his roll of paper on the flat, a knife having five vertical planes having the shaped edge to make this cut

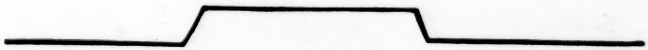


Figure 16.

across the entire width of the open strip. He caused the knife to descend against a fixed bed which supported the paper against the descending knife.

The appellees used a roll of paper, made their bags by cutting the paper transversely across the strip, by means of a stationery serrated cutter shaped like figure 17.

Figure 17.

and a movable arm, which drove the paper across the cutter, making a cut of the shape shown in figure ~~18~~ 19

Figure 18.

so that, when folded, it was a closed bottom bag as shown in figure 19, (see exhibit 12.)

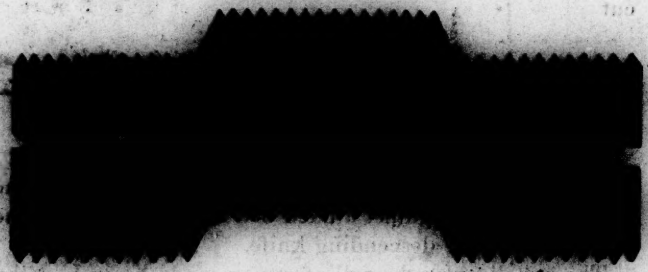


Figure 19.

instead of an open bottomed bag which would have been the case if the knife had been shaped as shown in fig. 20.

Figure 20.

A preliminary injunction was granted against this machine, and afterwards the appellee's substituted a knife like figure 21.

Figure 21.

which produced on the paper, cuts like figure 22, or exhibit 14.

Figure 22.

When these blanks were folded, they produced a closed bottom bag like figure 23, or exhibit 18.

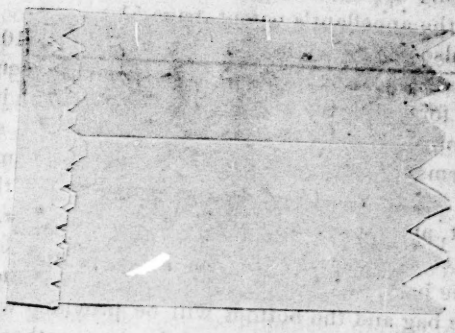


Figure 23.

Figure 24 shows the open bottomed bag which would have resulted if the blank had been cut with a knife like figure 20.

Figure 24.

J. Boyd Elliot, an expert, thus testifies that the cutters in making appellees bags (Exhibits 12 and 13,) both infringe the appellant's patent, page 51.

"I also find in complainants' Exhibit No. 10 one of the patents granted to Merrick Murphy, a representation of a cutter for forming paper bags, so shaped that in the operation of separating the blanks from the roll of paper in the formation of bags, it will perform the same function of the cutter referred to in the first claim of the Goodale patent, and in substantially the same manner, that is the serrated edge of said cutter is so shaped as to form a blank for the bags, so that the seam may be made in the middle of the bag and the bottom will be provided with a lap, so that both parts may be pasted firmly together on one side of the bag and the top be provided with a lip for the convenience of opening the bag when it is to be used; an outline of said cutter is represented in the said Murphy patent, Exhibit No. 10, at figure No. 3 of the drawings, and marked by the letter H, and is also referred to in the specification of said patent." * * * *

"The lap that is formed at the bottom and the lip at the top of the bag in Exhibits Nos. 13 and 14 are produced by forming the cutter with serrations or teeth of different dimensions or of different degrees of depth, their outer points all coincide with the same straight line across the sheet from which the blanks are to be cut, as represented in figure 1, marked "G complainants Exhibit No. 11," with such a construction of knife the operation of cutting begins in a straight line across the sheet of paper from which the blank is to be severed or cut, and in this respect, nor is the knife the same or its action the same as the knife claimed in the Goodale patent, but as soon as the cutting operation has progressed to the depth of the small teeth in the cutter shown at *G*, figure 1, " Complainants' Exhibit 11," then the cutting operation begins, and the cutter then becomes substantially such an instrument as the one claimed in the Goodale patent and referred to in the first claim thereof, for the reason that the rest of the cutting is continued by a series of cutting edges which form a blank for paper bags that have a lap at the bottom and a lip at the top for opening the bag, in other words, the cutting that is commenced in a straight line ceases to preserve that straight line as soon as ever the small teeth cease to act upon the paper, and then the coarser teeth or serrations of the cutting edge continues the cutting operation down to their full extent, and to this degree, in my opinion, constitute a cutter substantially like the one described and claimed in the Goodale patent.

The Court below held that the appellees did not infringe the appellant's patent, Wm. Goodale of July 12, 1859, sued on.

The simple question before the Court is one of infringement and it is submitted for the consideration of the Court upon the foregoing statement of the state of the art, and the appellant's invention.

EXTRACT FROM THE APPELLANT'S PATENT.

"My invention consists firstly in making the cutter, which cuts the paper from the roll or piece, of the peculiar irregular form hereinafter described, whereby it is caused by the operation by which it cuts the paper from the roll or piece, to give it the form hereinafter specified which permits it, without further cutting out, to be folded into a bag."

"A is a square framing which supports all the working parts of tht machine; B is the cutter which cuts the paper from the roll or piece to the required form for the bags which is exhibited in figure 4, said cutter cutting directly across the roll or piece, and producing the edges, *a*, *a* of the blank; the edges, *b*, *b* are not cut at all, as the blank between those edges is the iull width of the paper. Before proceeding further with the description of the machine, it will be well to explain how the bag is produced from this blank represented. The cutting of the edges *a*, *a* with two jogs, 8, 8, provides a lap 10, 10, to close the bottom, and one 11 to cover the mouth of the bag when the blank has been folded in the dotted lines 12, 12; these lines 12 are so situated that the edges *b*, *b* will lap each other us shown in figure 5, to form a seam down the middle of one side of the bag; the two parts 10 combine to form a lap for the bottom when the blank has been folded in the lines 12, 12, and this lap is to be folded in the opposite direction to the fold in the lines 12, 12, that is to say if the side parts outside the lines 12, 12 are folded over on the top of the central portion, the parts 10 are to be folded under the central portion as illnstrated in figure 5; the cutter B is of the form of the edges *a*, *a*, shown in figure 4, as may be seen by reference to figure 2, where its back is represented; this cutter has a serrated edge which works through a narrow slot *d*, of correponding form in a table C, upon which the paper is deposited in proper lengths for the blanks, from a roll or direct from a paper making machine.

W. Goodale.

Mach. for Making Paper Bags.

No. 24734. Patented Jul. 12. 1859.

Fig: 1.

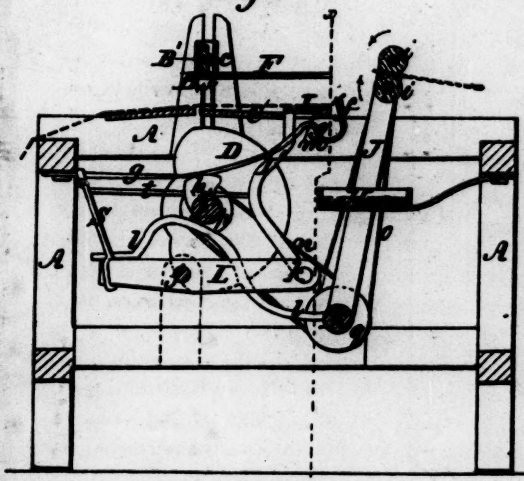


Fig: 3

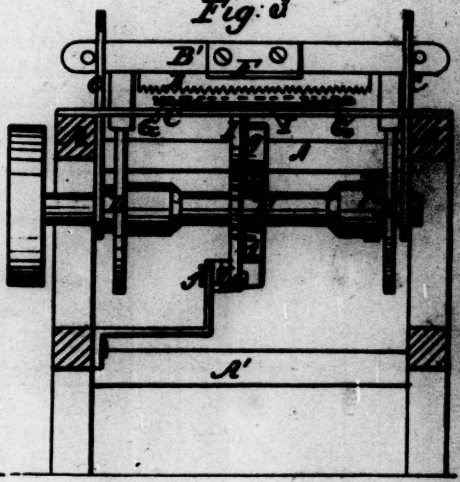


Fig: 2.

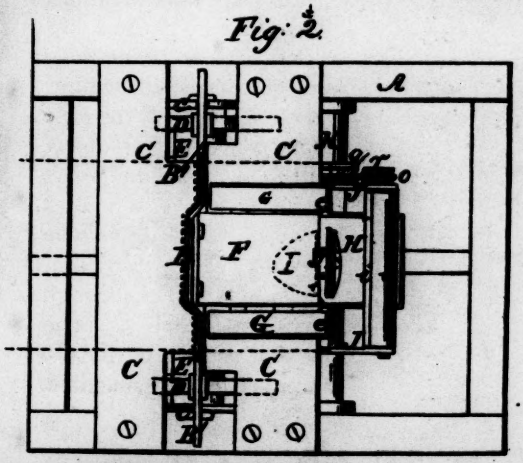


Fig: 4.

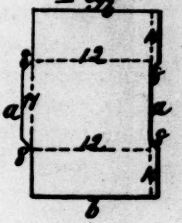
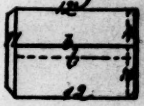


Fig: 5.



Witnesses;

CLAIM 1st.—Making the cutter which cuts the paper from the roll or piece of the form herein described, that in cutting off the paper it also cuts it to the required form, to fold into a bag without further cutting out.

EXTRACT FOR APPELLEES PATENT SETTING FORTH THEIR FIRST MODE OF WORKING.

"Each revolution of this cutter measures off the length of paper necessary to form a bag, which is severed bp the contact of the knife edges, and these are so shaped as to cut it to a pattern, (Sec. X, Fig. 1,) leaving in the middle a projecting flap, 5, to be afterward turned over to form the bottom seam of the bag." * * * *

"The space cut out to form the flap g, for the following bag leaves one side of the finished bag longer than the other, forming a convenient mouth, and affording a flap to be turned down by hand, if necessary for closing and sealing the mouth. To this bed is attached a knife, H, having a serrated edge, whose outline is shown clearly in figure 8. * * *

The outline of the fixed knife may be raised at pleasure' the operation of the machine not depending upon any particular configuration of the cutting edge of such knife."

EXTRACT FOR APPELLEES' PATENT, SETTING FORTH THEIR SECOND MODE OF WORKING.

"As in some machines the bottom lap of the bag is turned in the opposite direction to that shown, the paste in such being applied to the under side of the partially folded bag, of course, when blanks cut by my knife are to be used with such machines, it will be necessarp to arrange the teeth in the knife, so that the deeper and wider serrations shall be in the centre of the blank, instead of on the sides, as shown."

GEORGE HARDING,
Counsel for Appellants.

No. 24,734.

THE UNITED STATES OF AMERICA.

To all to whom these Letters Patent shall come:

WHEREAS, William Goodale, of Clinton, Massachusetts, has alleged that he has invented a new and useful Machine for making paper bags, which he states has not been known or used before his application: has made oath that he is a citizen

THE UNION PAPER BAG MACHINE CO. ET AL.

vs.

MERRICK MURPHY AND R. W. MURPHY.

Plaintiff's EXHIBIT No 7

made Patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the City of Washington, this {L.S.} twelfth day of July, in the year of our Lord, one thousand eight hundred and fifty-nine, and of the Independence of the United States of America the eighty-fourth,

JACOB THOMPSON,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.

WM. D. BISHOP,
Commissioner of Patents.

No. 24,734.

THE UNITED STATES OF AMERICA.

To all to whom these Letters Patent shall come:

WHEREAS, William Goodale, of Clinton, Massachusetts, has alleged that he has invented a new and useful Machine for making paper bags, which he states has not been known or used before his application; has made oath that he is a citizen of the United States; that he does verily believe that he is the original and first inventor or discover of the said Machine, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said Machine, and praying that a patent may be granted for that purpose;

These are therefore to grant, according to law, to the said William Goodale, his heirs, administrators, or assigns, for the term of fourteen years from the twelfth day of July, one thousand eight hundred and fifty-nine the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said Machine, a descript ion whereof is given in the words of the said William Goodale, in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof I have caused these Letters to be made Patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand, at the City of Washington, this twelfth day of July, in the year of our Lord, one thousand eight hundred and fifty-nine, and of the Independence of the United States of America the eighty-fourth,

{L.S.}

JACOB THOMPSON,
Secretary of the Interior.

Countersigned and sealed with the seal of the Patent Office.

WM. D. BISHOP,
Commissioner of Patents.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, William Goodale, of Clinton, in the County of Worcester, and State of Massachusetts, have invented certain new and useful improvements in machinery for making paper bags, and I do hereby declare that the following is a full, clear and exact description of the same, reference being had to the accompanying drawings forming part of this specification in which

Fig. 1 is a central longitudinal section of a machine with my improvements.

Fig. 2 is a plan of the same.

Fig. 3 is a transverse vertical section of the same, in the line *x*, *x* of Fig. 1.

Fig. 4 exhibits the shape of the paper blank of which the bags are formed by the machine, before it is folded.

Fig. 5 exhibits the bag folded.

Similar letters of reference indicate corresponding parts in the several Figures.

My invention consists firstly in making the cutter, which cuts the paper from the roll or piece, of the peculiar irregular form hereinafter described, whereby it is caused by the operation by which it cuts the paper from the roll or piece, to give it the form hereinafter specified which permits it, without further cutting out, to be folded into a bag.

It also consists in the attachment of the former round which the paper is folded to form the bags to the cutter which cuts it from the roll or piece.

It also consists in a certain mode of applying and arranging a paster in a combination with the former attached to the cutter, for the purpose of pasting the lap which closes the bottom of the bag.

It also consists of a certain construction of two side lappers operating in combination with the former to fold the bag, whereby the bottom lap is partly folded by the act of folding the side laps.

It also consists in a contrivance applied and operating as hereinafter described to start the folded or partly folded bag from the former.

It also consists in a pair of rollers arranged in a vibrating frame, and operating as hereinafter described to remove the bag from the former, close the laps and discharge the bag from the machine.

And it further consists in the general arrangement and combination of the several parts of the machinery to operate substantially as hereinafter described.

To enable others to make and use my invention, I will proceed to describe its construction and mode of operation;

A is a square framing which supports all the working parts of the machine; B is the cutter which cuts the paper from the roll or piece to the required form for the bags which is exhibited in Fig. 4, said cutter cutting directly across the roll or piece, and producing the edges *a*, *a* of the blank; the edges *b*, *b* are not cut at all, as the blank between those edges is the full width of the paper. Before proceeding further with the description of the machine, it will be well to explain how the bag is produced from this blank represented. The cutting of the edges *a*, *a*, with two jogs 8, 8, provides a lap 10, 10, to close the bottom, and one 11 to cover the mouth of the bag when the blank has been folded in the dotted lines 12, 12; these lines 12 are so situated that the edges *b*, *b* will lap each other as shown in Fig. 5, to form a seam down the middle of one side of the bag; the two parts 10 combine to form a lap for the bottom when the blank has been folded in the lines 12, 12, and this lap is to be folded in the opposite direction to the fold in the lines 12, 12, that is to say if the side parts outside the lines 12, 12 are folded over on the top of the central portion, the parts 10 are to be folded under the central portion as illustrated in Fig 5; the cutter B is of the form of the edges *a*, *a*, shown in Fig. 4, as may be seen by reference to Fig. 2, where its back is represented; this cutter has a serrated edge which works through a narrow slot *d*, of corresponding form in a table C, upon which the paper is deposited in proper lengths for the blanks, from a roll or direct from a paper making machine, by suitable intermittently

operating feed rollers, which I have not thought it necessary to represent, as such rollers are used in most paper bag machines, the front edge of the said table C being also like the cutter of the form of the edges *a*, *a*; the cutter is attached to a horizontal bar B^1, which works within vertical guides *c*, *c* erected on opposite sides of the machine, and which derives an upward vertical movement from two cams D, D, on a constantly rotating horizontal main shaft E, and then descends by its own weight, which is sufficient to cause the cutting of the paper by the cutter, the descent taking place during the intermissions between the feeding movements of the paper. F is the former, consisting of a plate of metal of a width and length to the desired width and length of the bag. secured to the cutter B^1, so as to rise and fall with the cutter, said plate occupying a horizontal position and coming down close upon the table C, at the back of the cutter as the cutter complets its descent and cuts off a blank from the piece or roll of paper, the side edges of the said former coming on the lines 12, 12 of the blank; the cutter and former remain stationary after their descent long enough to permit the operation of the side lappers G, G, which are hinged to the table C, one on each side of the former, and which are thrown quickly over the former to fold over the side portions of the blanks from the lines 12, 12, and as quickly thrown back again to permit the rising of the cutter and former one of the said lappers operating slightly in advance of the other to permit one edge *b*, of the blank, to be lapped over the other without any danger of their meeting. I have not represented in the drawing any mechanism for operating these lappers, as they may be operated in the same manner as the lappers in he other paper bag and envelope making machines; the said papers, however, differ in their construction from the lappers in other machines in one particular, viz: in having the ends which are next the extremity of the former bent at a right angle, or nearly so, as shown at *e*, *e*, in Fig. 2, so that as they fold the sides of the blank, they will also partly fold the bottom lap, that is to say, will turn it down at right angles to the body of the bag; the parts *e*, *e* of the lappers may be attached to the other parts by hinged joints, and be operated so as to complete the folding of the bottom lap.

It might have been before observed that as the paper for the blank is fed on to the table C, it is pasted along one edge *b*, by passing over a paste roller which I have not represented, as it constitutes no part of my invention, and hence the lap of the two edges *b*, *b* is caused to adhere to form the seam when the sides of the blank are folded over by the lappers; the bottom lap is pasted by means of a paster *f*, which is attached by a spring arm *g* to the upper front rail of the frame; this paster is forced by the elasticity of the spring arm *g* down into a paste box H, suitably arranged below the table C, but at the proper time, viz: after the operation of the side lappers F, F, is raised to apply the paste to the overhanging lap 10, 10 of the partly folded blank on the former, by the action upon the arm *g* of a cam *h*, on the main shaft E.

I, is what I call the knock-off for starting the bag from the former, and causing its entrance between the pasting rollers *i*, *i*, which are arranged at the back of the machine in the vibrating frame J, to take the bag and complete it by pressing the laps close together, and discharge it from the machine. The knock-off I, consists of a straight edged piece of plate arranged between the former and the table C, and attached to a curved arm I^1, which works through a slot *m*, in the back of the table, and is pivotted by a pin K, to a lever L, which works on a fixed fulcrum *j*, below the main shaft E; the said lever L is operated upon to raise the knock-off as or directly after the former F rises by the downward pressure upon its rear end of an arm *l*, attached to the horizontal rock shaft K, of the vibrating frame J, the said arm being operated to throw forward the vibrating frame by the action upon it of the cam *h*; as the knock-off is thus raised, its curved arm I, which is held in contact with the front end of the slot *m* by a spring *t*, connecting it with the upper front rail of the frame is caused by the action of its curved front edge in the said slot to move back, and to cause the edge of the knock-off to strike the turned down lap 10 of the bag, and thus to start it from the former, and to cause it to enter between the rollers *i*, *i*, which are kept constantly revolving in the direction of the arrows shown upon them in Fig. 1, by two belts *n*, *o*, one of which runs from a pulley *p*, which is fast on the main shaft E, to a

pulley *q*, which is loose on the rock shaft K, and the other from the latter pulley to a pulley *r* on the lower of the two rollers; the action of the cam *h* upon the arm *l*, at the same time that it caused the knock-off to rise and strike the bag, brought forward the vibrating frame J to meet the bag, that the rollers *i*, *i* might seize it, and this being done the cam allows the vibrating frame to be thrown back by the upward pull upon the arm *l*, of a spring *s*, connecting it with the upper front rail of the frame, and the frame thus moving back with its rollers *i*, *i*, in motion on their axis, draws the bag completely off the former F, and the whole length of the bag is caused to pass right through or between the said rollers, and be discharged over the back of the machine, receiving such pressure from the rollers in passing between them as to flatten its folds and laps, and cause the perfect adhesion of the laps; the spring *s* above mentioned, is connected with the rear end of the lever L, and at the same time as it draws up the arm *l* to throw back, the vibrating frame draws down the knock-off in advance of the descent of the former F, so that the feeding forward of the paper for the next bag may not be interfered with.

I will remark that the former F applied, attached as described to the cutter, so as to be operated by the same simple means, the bottom lap paster, the knock-off, and the vibrating frame J, and its rollers *i*, *i*, may be arranged in the same manner in combination with rollers for folding the sides of the bag, instead of with lappers like G, G

What I claim as my invention and desire to secure by Letters Patent, is:

1st. Making the cutter which cuts the paper from the roll or piece of the form herein described, that in cutting off the paper, it also cuts it to the required form to fold into a bag without further cutting out.

2d. The attachment of the former F directly to the cutter to operate in combination therewith, and with a folding table C, substantially as herein described.

3d. The within described mode of applying and arranging the paster *f*, to operate in combination with the folding table C, and former F.

4th. The construction of the side lappers with angular ends *e*, *e*, substantially as described for the purpose of partly folding the bottom lap by the act of folding the sides of the bag.

5th. The knock-off I, operating in combination with the former, substantially as and for the purpose described.

6th. The vibrating frame J, with its rollers *i*, *i* operating in combination with the former, and the knock-off, substantially as and for the purpose herein described.

7th The arrangement of the table, the cutter, the former side lappers, the bottom paster, the knock-off and the vibrating frame J, to operate in relation to and in combination with each other, substantially as described.

WILLIAM GOODALE,

Witnesses.

EZRA SAWYER,
H. T. GOODALE.

Certificate of Extension

Whereas, upon the petition of William Goodale, of Clinton, Massacheusetts, for the extension of the Patent granted to him, July 12, 1859, for "Machine for making Paper Bags," the undersigned, in accordance with the act of Congress approved the eighth day of July, 1870, entitled "An Act to revise, consolidate, and amend the statutes relating to patents and copyrights: did, on this eleventh day of July, 1873, decide that said Patent ought to be extended.

Now, therefore, I, Mortimer D. Leggett, Commissioner of Patents, by value of the power vested in me by said act of Congress, do renew and extend the said Patent, and certify that the same is hereby extended for the term of seven years from and after the expiration of the first term, viz: from the twelfth day of July, 1873, which certificate being duly entered of record in the Patent Office, the said Patent has now the same effect in law as though the same had been originally granted for the term of twenty-one years.

In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed this eleventh day of July, 1873, and of the Independence of the United States the ninety eighth.

[SEAL.]

M. D. LEGGETT,
Commissioner.

Certificate of Extension

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In testimony whereof, I have caused the seal of the Patent Office to be hereunto affixed this eleventh day of July, 1873, and of the Independence of the United States the ninety eighth.

[SEAL.]

M. D. LEGGETT,
Commissioner.

W. Goodale.

Mach. for Making Paper Bags.

No. 24734. Patented Jul. 12. 1859.

Fig: 1.

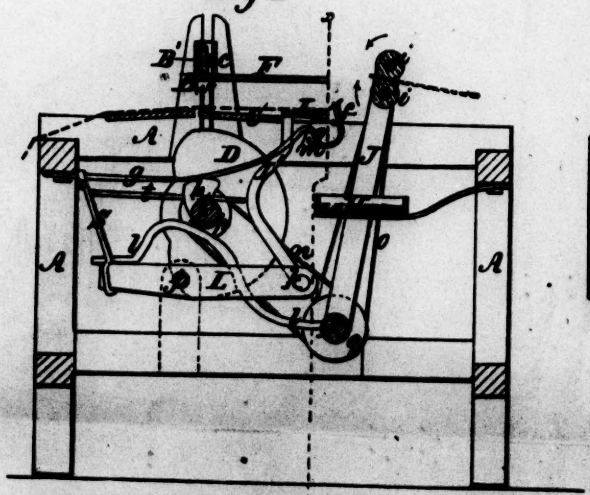


Fig: 3

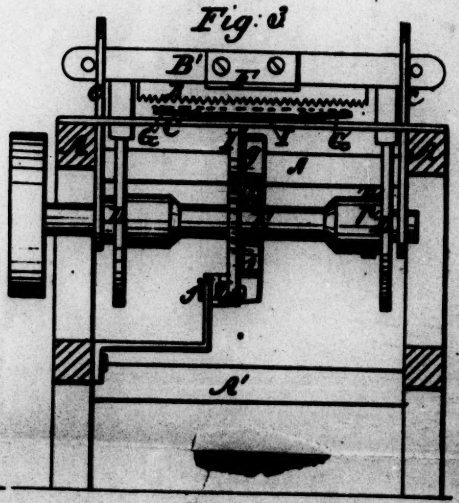


Fig: 2

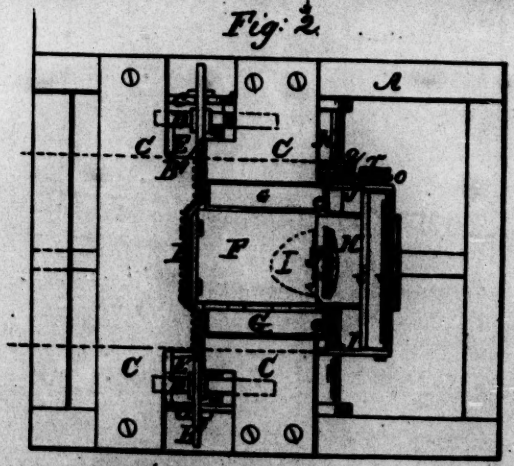
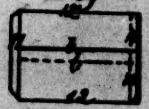


Fig: 4.

Fig: 5.



Witnesses;
Chas. Sawyer
H. J. Goodale

Inventor;
William Goodale

THOS. S. BOWMAN, Printer, 308 North Third Street, St. Louis.

Supreme Court of the United States,

Nos. 232 and 233.

THE UNION PAPER BAG MACHINE CO., ET AL.,

Appellants.

VS.

MERRICK MURPHY, ET AL.,

Appellees.

SAME,

VS.

SAME.

BRIEF FOR APPELLEES.

SAM'L S. BOYD,

Counsel.

Supreme Court of the United States,

OCTOBER TERM, 1877.

THE UNION PAPER BAG MACHINE CO. et al,
Appellants.
vs.
MERRICK MURPHY and RUFUS W. MURPHY,
Appellees.

Appeal from the U.S. Circuit Court, Eastern District of Missouri.
No. 232.

SAME,
vs.
SAME.

Same.
No. 233.

BRIEF OF S. S. BOYD, FOR APPELLEES.

STATEMENT OF THE CASE.

These are appeals from decrees of the United States Circuit Court for the Eastern District of Missouri dismissing two bills filed by complainants, the appellants, for the infringement of certain Letters Patent held by them as assignees. The Letters Patent involved were in No. 232, those granted one William Goodale on the 12th day of July, 1859, for Paper Bag Machine, and in No. 233, those granted to B. F. Rice on the 28th day of April, 1857; both of them having been duly extended.

The machines used by defendants were covered by and described in certain Letters Patent for Paper Bag Machines granted them as follows: to Merrick Murphy, January 21st, 1873, No. 135,145, and January 27th, 1874, No. 146,774, and to R. W. Murphy, January 27th, 1874, No. 146,773, of which copies are hereto annexed. The issues presented in each case were infringement, and the validity of the Letters Patent, both of which were denied by the defendants in their answer. General decrees were entered dismissing both bills, and as the opinion pronounced was not reduced to writing, the record does not disclose the grounds on which they were based. Both cases were heard together upon the same evidence, and we now propose to argue them in the same way.

POINTS.

Although the answer in each case puts in issue the validity of the several patents, yet we do not now desire to raise this question except parenthetically, since in the view we take of the proper construction of the claims involved, it is clear to a demonstration that we do not in any wise infringe either patent, and consequently it is a matter of no moment to us whether the patents be valid or invalid.

Both of the patents of appellants have several claims, but as in the Court below it was only contended that we infringed upon the fourth claim of the Rice patent, and the first claim of the Goodale patent, we assume that in this Court the contention will be similarly limited, and, therefore, we shall confine our attention

to these two claims, remarking, however, that in the event counsel should undertake to bring into this controversy either of the other claims of either of their patents, it will require but a casual inspection of the several constructions to completely answer and refute any argument in that regard.

The form of the bag blank, or the development of the bag is shown at Fig. 16, and the complete bag at Fig. 15 of the Rice patent, and at Figs. 4 and 5 of Goodale's patent. We admit that our bag, when made under patents No. 135,145 and No. 146,774, has a development exactly like that of the Rice and Goodale bags, saving that the edges of our bag are serrated in No. 146,774, the outline of the bag being shown at Fig. 3 of No. 135,145. As it is not claimed that we have used the cutting device described in our No. 135,145, the evidence being that we abandoned it and adopted that described and claimed in our No. 146,774, we shall confine our attention solely to the construction of the cutting device shown in our No. 146,774, the knife shown in our No. 146,773, and the mode of folding and completing the bag shown in our No. 135,145—the knives shown in No. 146,773 and in No. 146,774 being interchangeable in the machine described in No. 146,774. We may remark, however, that the cutting device in No. 135,145, which we do not use, is in no respect an infringement on either of complainant's patents, and its use was not given up for any doubt we had on that point, but simply because we deemed the latter construction practically better.

Although in the court below it was admitted that both the claims involved—the 4th of Rice and 1st of

Goodale—must be limited to the specific devices by which the result named in each is produced, yet as counsel may now seek, as has been done in other cases involving these patents, to give to these claims a broader and more generic construction, it may not be amiss to show that no such construction is admissible, but that the claims in each patent must be limited to the devices by which the result in each is accomplished. The Rice claim is in these words: "I also claim cutting the paper without waste of material into such a form as shall have suitable projections for the formation of the bottom lap or seam of the bag, and for the convenient opening of the bag at the mouth substantially as described." Judge Emmons, followiug Judge Blatchford, has construed this "to be a claim for "the mechanism by which the paper for the manufacture "of the bags is cut as described." (Union Paper Bag Co. v. Nixon, 9 Off. Gaz. 691.) It is a claim not for "cutting the paper without waste of material" simply—for such a result is obtained by the English patent of Cox, granted in 1854, three years before Rice, his specification stating that "the paper when cut by such "knife will be ready for folding into bags, and no waste "whatever of material will occur." It is not merely for cutting it "into such a form as shall have suitable projections, &c."—for this too was done by Cox as we show hereafter. Nor is it broadly for producing both these results combined—Cox did this—but it is for producing them "suhstantially as described," that is, this claim must be *construed and limited by the specification*, to which the words "substantially as described" refers.

"Where the claim immediately follows the description of the invention, * * * if the claim contains words referring back to the specification it cannot properly be construed in any other way than in connection with the explanation given in the description."

Fuller v. Yentzer, 94 U. S. 288.

And this for the reason that "Patents for a machine will not be sustained if the claim is for a result, the established rule being that the invention, if any, within the meaning of the Patent Act, consists in the means or apparatus by which the result is obtained, and not merely in the mode of operation, independent of the mechanical devices employed; nor will a patent be held valid for a principle or for an idea, or any other abstraction." *Idem.*

The claims under consideration in the above case had the same general and comprehensive language as is found in Rice, being 'I claim forming one, two or more creases, &c.," and "I also claim marking a line on the surface of cloth, &c.," and likewise had similar words referring back to the specification, they being "as set forth," instead of as in Rice "substantially as described." This claim of Rice must then be for a *combination* of the various elements and devices set forth in the specification by which the results named are produced "substantially as described." What are the elements of that combination? They are First—Creasing rolls. Second—"A supporting bar around which "paper may be formed into a tube, and in connection "with which the said paper tube may be severed."

Third—A set of rolls having a reciprocating movement towards the end of the supporting bar to seize the end of the tube, and on the return movement of the rolls draw the tube from the bar. Fourth—A vibrating blade, which, descending diagonally in a path coinciding with the bevel on the end of the bar, severs the completely formed tube while the same is under tension from the action of the rolls just mentioned. In addition to these there must be the necessary operating devices by which the requisite movements are given in the proper succession to these several parts.

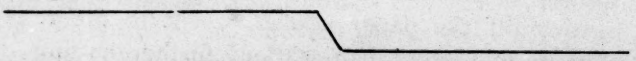
As it is well settled that no one can be said to infringe a combination claim who does not use the entire combination (*Brown v. Guild, 23 Wallace, 219*) it only remains to inquire whether we find these four absolutely essential elements, or their equivalents, in the Murphy machines, or either of them. The "creasing rolls" are wanting, because not needed, as Murphy cuts the paper in the "flat"—that is without first folding it in any manner. The supporting bar is wanting, for whatever may be the purpose of the plate used by Murphy in the later stages of his process, it clearly is not the equivalent of the Rice supporting bar, for it has no relation whatever to the operation of severing the paper, that operation having been entirely completed before the plate is reached, or as stated in our specification No. 146,774 "the blank that is cut is ready to "be folded into a bag by any suitable devices which "may be attached to and form a part of this cutter, as "for instance, in my machine, patented 21st January, "1873, No. 135,145, or be separate and distinct from

"it." The reciprocating rolls are not used by us, ours being simply the ordinary drawing rolls which are seen in the machines prior to Rice, and which Rice does not even pretend to claim. We use a revolving striker, having a *continuous*, not reciprocating motion, and which does not in any manner penetrate the paper as does Rice's. More than this, it is clear that Murphy's machine can not cut a *tube* into the required form—and Rice can not cut in the *flat*—that the movement of the paper in Rice is, and must of necessity be' *intermittent*, on account of the vibrating motion of the cutter, while in Murphy's it is *continuous;* a most important distinction, since the sudden tension of the paper incident to an intermittent motion is obviated, and yet all the advantages of a vertical blow—the direction most desireable—are attained. There is another important distinction between our cutting apparatus and Rice's, to wit: we can cut a bag blank of any outline we desire by simply changing the fixed blade, a thing impossible to be done with the Rice machine—a fact which of itself is very persuasive evidence that the machines are different in principle and construction. Enough has been said, we submit, to show that when Rice's claim is construed as the law and the state of the art demand, it is clear we do not infringe thereon by either of our cutting devices.

How is it with the Goodale patent? The first claim of this is "making the cutter which cuts the paper from the roll or piece of the form herein described, that in cutting off the paper it also cuts it to the required form to fold into a bag without further cutting out."

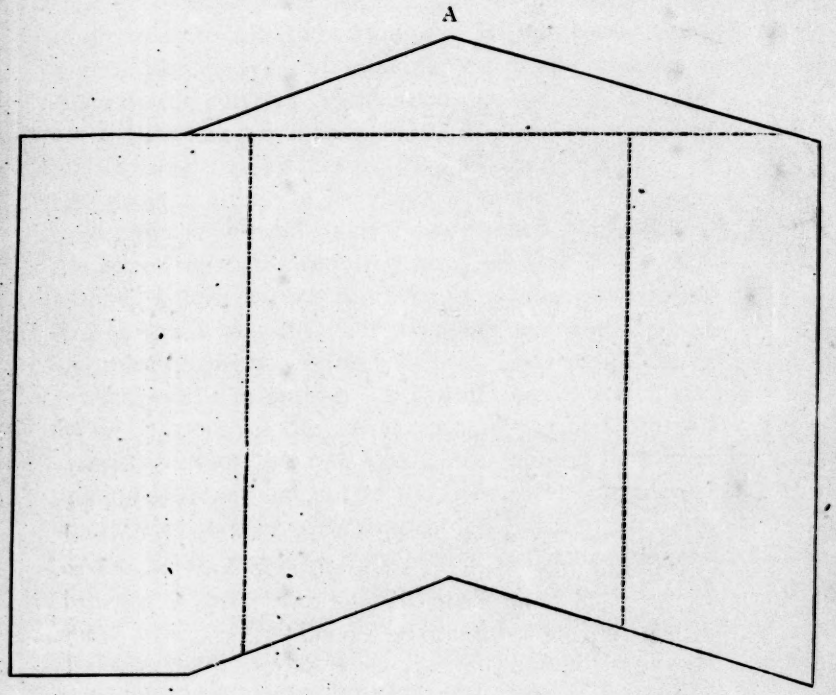
What does this clause mean?

Read literally it is simply a claim for *making* a cutter of a peculiar form, that is for a process of manufacture—leaving the use and sale of the cutter when made open to all, the remainder of the claim being merely descriptive and explanatory of the characteristics of the cutter. So construed it can not be contended that we are infringers, as there is no evidence of our ever making a cutter of any kind, all that we are proven guilty of is using a cutter when made. It can not be a good claim for *any* cutter that will cut the paper into "the required form to fold into a bag without further cutting out," for as we have seen, the Rice cutter, which antedates Goodale, cuts the paper in indentically this way—the blank in both cases being precisely alike in outline. It can not be a valid claim for *any* cutter "of the form herein described," for an iexamination of the old Cox cutter shows that it is substantially of that form, and moreover completely meets the further qualification of "cutting off the "paper in the required form to fold into a bag without "further cutting out." The specification of the Cox patent says: "this invention consists in forming the "cutting edge of the knife of the annexed form so "that an angled cut is effected throughout the entire "pile of paper, *each sheet being then ready* for folding "into a bag." The form of the cutter shown in the Cox patent is this

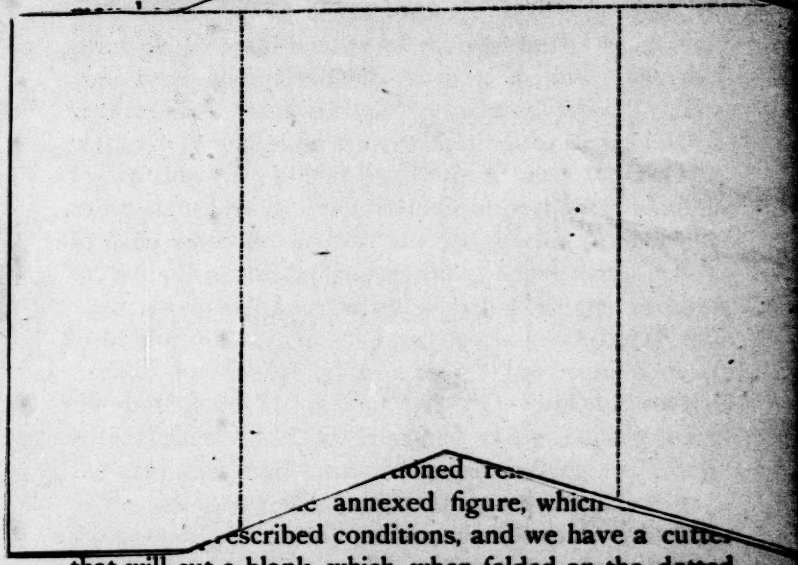


but it will be observed that the patentee does not limit himself to this particular form, for he says: "I do not

THE COX BAG.

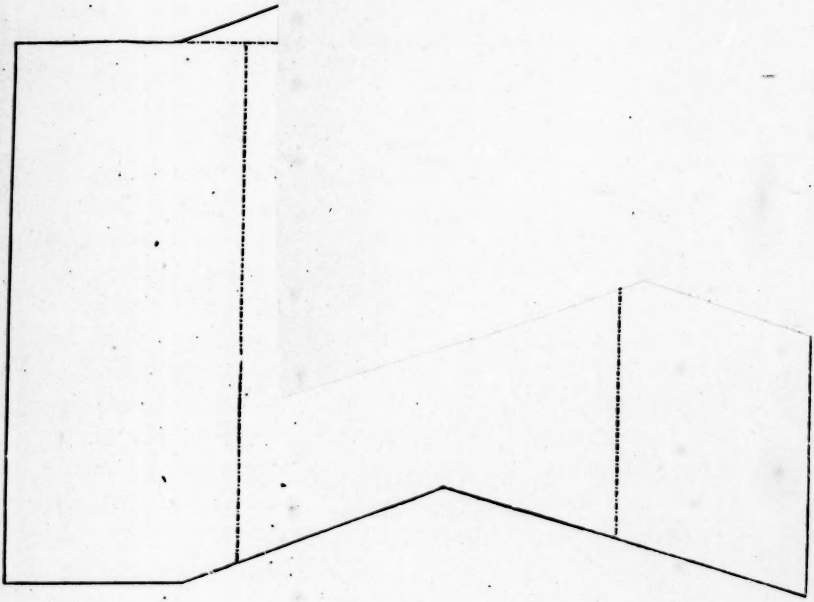


confine or restrict myself to [illegible]le or form of cutting edge shown [illegible]



[illegible]tioned re[illegible] annexed figure, which [illegible] prescribed conditions, and we have a cutter that will cut a blank, which, when folded on the dotted lines into a bag, it is difficult to distinguish from Goodale's bag, as is shown by the exhibit filed in this case, and may be demonstrated by folding the annexed figure. Is it not clear that the only way to save this claim is to construe it to be a combination claim, consisting of the cutter and the devices by which it is enabled to work out the result claimed? Further, when we examine the Cox patent and find that its knife, in the words of Goodale "is attached to a horizontal bar which works within vertical guides," that, as in Goodale's, the paper to be cut is laid on a table and is there

THE COX



confine or restrict myself to the precise angle or form of cutting edge shown in my drawings, as many variations may be made therefrom without deviating from the principle or main feature of my invention, which is the constructing of knives in such a manner that their cutting edges shall be in *three vertical planes.*" That is, the only limitation Cox prescribes for himself is that the cutting edges must be in "three vertical planes"—those planes being arranged and proportioned relatively to each other as fancy or the exigencies of their use may require, and so long as those edges are in "three vertical planes" and "an angled cut is effected through-"out the entire pile of paper, each sheet being then "ready for folding into a bag," the conditions of the patent are met, and the knife will be covered by its claim. Let, for instance, those cutting edges be arranged and proportioned relatively as shown in the line A of the annexed figure, which is clearly within the prescribed conditions, and we have a cutter that will cut a blank, which, when folded on the dotted lines into a bag, it is difficult to distinguish from Goodale's bag, as is shown by the exhibit filed in this case, and may be demonstrated by folding the annexed figure. Is it not clear that the only way to save this claim is to construe it to be a combination claim, consisting of the cutter and the devices by which it is enabled to work out the result claimed? Further, when we examine the Cox patent and find that its knife, in the words of Goodale "is attached to a horizontal bar which works within vertical guides," that, as in Goodale's, the paper to be cut is laid on a table and is there

cut in the "flat" by the downward movement of the knife—that in the David patent, older than Goodale, a vertically reciprocating knife is used having a serrated edge, which cuts the paper placed on a table having a slot in its face for the knife to enter, is it not also clear that in order to save this claim it must be *very* strictly limited to the specified devices set forth, and even then there will be grave doubts as to its presenting any patentable features? Those devices are: First—A bar to which the cutting knife is attached. Second—Vertical guides in which said bar may reciprocate. Third—A bed or supporting surface for the paper to be cut, having in its face a slot corresponding in outline to the cutting knife, and into which said cutting knife must enter in its downward stroke, first having passed through the paper. Fourth—Rolls to draw and give the requisite tension to the paper while being cut. In addition to these, of course, there must be some device by which the bar and its knife is given a vertical reciprocating movement. The first and second are found literally in the Cox and David machine and patent, and so is the third, with the exception that Cox does not have the slot in the table, it being unnecessary in view of the fact that, unlike Goodale and David, his knife edges are not serrated, and the exact equivalent of the fourth are seen in the Rice and other patents before Goodale. In view of the fact that Rice, before Goodale, produced exactly the same shaped bag as Goodale, though by means confessedly different, and Cox produced substantilly the same shaped bag, cutting the paper in the "flat" by devices identically the

same as Goodale, with the exception that the former used a knife having its cutting edges in three instead of five vertical planes, and by means of the smooth cutting edge was enabled to dispense with the slot in the table, we submit that Goodale can not invoke the doctrine of equivalent in any manner.

Of these essential devices the Murphys use none, with the exception of the rolls which give tension to the paper while being cut. They do not use a slotted bed or its equivalent even, nor any vertically reciprocating knife, or any vertical guides whatever. It can not be claimed that Goodale shows anything resembling Murphy's revolving striker, with its double movement, a continuous rotation with the heads to which it is attached, and at a certain point in its revolution a combined vertical and curvilinear reciprocation at the moment of severing the paper, this latter motion being caused by the joint action of the "dog *b* and springs *g g'*."

Murphy not only leaves out many of the essential elements of Goodale, but adds devices, the counterpart or equivalents of which can not be found in Goodale, nor anything which performs their office or enables the same results to be produced, to-wit: a continuous motion of the paper and a serrated edge to the blank when cut, the latter being a vital point whenever the knife claimed in our No. 146,773 is used, for without these serrations the R. W. Murphy blank could not be folded and pasted by machinery so as to form a perfect bag. (*P. 58, ans. 25, and p. 62, ans. 60.*) Although similarity of result does by no means prove

THE UNION PAPER BAG MACHINE CO. ET AL.

VS.

MERRICK MURPHY AND R. W. MURPHY.

Defendants' EXHIBIT F

SPECIFICATION OF JAMES COX.

A. D. 1854. NO. 347.

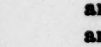
KNIVES FOR CUTTING PAPER, &c.

Letters Patent to James Cox, of Wenlock Road, Wenlock Basin, City Road, in the County of Middlesex, Engineer and Manufacturer of Paper Cutting Machines, for the Invention of "Improvements in Knives for Cutting Paper and other Materials."

Sealed the 13th April, 1854, and dated the 13th February, 1854.

Provisional specification left by the said James Cox at the Office of the Commissioners of Patents, with his Petition, on the 13th February 1854.

I, James Cox, of Wenlock Road, Wenlock Basin, City Road, in the County of Middlesex, Engineer and Manufacturer of Paper Cutting Machines, do hereby declare the nature of the said Invention for "Improvements in Knives for Cutting Paper and other Materials" to be as follows:

This Invention relates to an improved form of knife or cutter, the principal application of which is for the purpose of cutting out the blanks to be used in the manufacture of bags, and consists in forming the cutting edge of the knife of the annexed form.  , so that an angled cut is effected vertically throughout the entire pile of paper, each sheet being then ready for folding into a bag.

Specification in pursuance of the conditions of the Letters Patent, filed by the said James Cox in the Great Seal Patent Office on the 12th August, 1854.

To all to whom these presents shall come, I, James Cox, of Wenlock Road, Wenlock Basin, City Road, in the County of Middlesex, Engineer and Manufacturer of Paper Cutting Machines, send greeting.

Whereas, Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Thirteenth day of February, in the year of our Lord One thousand eight hundred and fifty-four, in the seventeenth year of her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said James Cox, Her special license that I, the said James Cox, my executors, administrators, and assigns, or such others as I, the said James Cox, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "Improvements in Knives for Cutting Paper and other Materials," upon the condition (amongst others) that I, the said James Cox, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

Now know ye, that I, the said James Cox, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the accompanying Drawings, and to the letters and figures marked thereon, that is to say:

My said Invention relates to an improved form of knife or cutter, the principal application of which is for the purpose of cutting out the blanks to be used in the manufacture of bags, and consists in forming the cutting edge of the knife of the annexed form, ——/——, so that an angled cut is effected vertically throughout the entire pile of paper, each sheet being then ready for folding into a bag.

Fig. 1 on the accompanying Sheets of Drawings represents a complete side elevation of a paper cutting machine with my improved form of knife, or cutter attached. Fig. 2 is a corresponding front view of the same. Fig. 3 is a longitudinal vertical section of the machine taken through the centre there-

of. Fig. 4 is a sectional plan of the machine corresponding to Fig. 2. Fig. 5 is an enlarged detailed plan of the top of the knife or cutter holder or bar. Fig. 6 is a corresponding side elevation of the same, with the knife attached. Fig. 7 represents a transverse section of the knife or cutter and holder; and Fig. 8 is a diagram, shewing the peculiar form of the cutting edge of the knife in plan. A, A, are the side standards of the machine which are tied together by the cross rails B, B, and fixed cross head C; through the centre of the cross head is passed the vertical pressing screw D, which is fitted at its upper end with the weighted lever arms E, E, and rests at its lower extremity in a hole in the upper surface of the pressine beam F. This beam slides vertically in the grooves G. G, formed in the insides of the standards A, as shewn at Fig. 4, and serves to compress the pile of paper to be cut, which is laid on the fixed table H An adjustable gauge I, slides horizontally over the surface of the table H, being actuated by the horizontal screw spindle J, which works through the nut or tail piece K, passing through a slot in the table, and attached to the under side of the gauge. The spindle is supported at its front end by the bearing L, attached to the under side of the table; a small winch handle M is keyed on to the front end of this spindle so as to be conveniently situated for the hand of the attendant N is a graduated rod attached to the end of the gauge I and working in a groove in the table, whereby the size of the sheets when cut may always be determined on beforehand, by setting the gauge accordingly. In order to insure the paper being cut square the table H is ruled longitudinally with a series of parallel lines, as shown in the plan, Fig. 4. O is the knife or cutter (the peculiar form of which constitutes the essential feature of my Invention), which is attached by screws P, P, or otherwise to the knife holder or bar Q.

I may here observe with regard to the knife, that I do not confine or restrict myself to the precise angle or form of cutting edge shewn in my Drawings, as many variations may be made therefrom without deviating from the principal or main feature of my Invention, which is the constructing of knives in such a manner that their cutting edges shall be in three

vertical planes, as shewn by the Nos 1, 2, and 3, in the diagram, Fig. 8. The bar or knife holder Q slides in the vertical grooves or guides R, R, and is actuated by the gearing herein-after described. Near each end of the knife holder Q is attached a rod or bar S, S, which are each formed with a rack T, T. near their lower extremities, and united by the transverse tie bar U. The racks T gear into the pinions V, V, fast on the transverse shaft W; this shaft works in suitable bearings in the framework or standards of the machine, and carries at one extremity the large spur wheel X, which gears into he pinion Y, fast on the spindle Z. This shaft or spindle has also keyed on to it the internal toothed wheel *a*. which gears into the smaller pinion *b* situated under it, and fast on the end of the first motion shaft *c*, which runs accross the machine, and is fitted at its opposite end with a winch handle *d*, by which the machine is set in motion. *e* is a projecting stop piece attached to the rim of the large spur wheel, and this stop piece by coming in contact with another stop piece *f*, fixed to one of the standards of the machine, serves to prevent any further descent of the knife when it has reached the bottom of its cut. In operating by this machine the handle *d* may be either fitted to the shaft *c*, as shewn in my Drawings, if a slow motion is required and a heavy cut to be made, or it may be unshipped and fitted on to the square end of the shaft Z, when a quick motion is required or a light cut merely to be effected. On turning the shaft *c* the pinion *b* will communicate a rotary motion to the shaft Z through the internal toothed wheel *a*. The pinion Y on the shaft Z gives a slow motion to the large spur wheel X, whereby the pinions V, V, on the shaft of this wheel will be caused to rotate and communicate a vertical downward movement to the racks T, T, and knife or cutter O. By the time the stop *e* on the wheel X has arrived at the fixed stop *f* in the framing, the knife will have completed its cut, and the motion of the handle *d* must consequently be reversed to effect the elevation of the knife. By the peculiar form of knife or cutter herein-before described it will be obvious that the paper when cut by such knife will be ready for folding into bags, and that no waste whatever of material will occur The sheets are to be sufficiently large to

form two bags, so that the portion which is cut out of one sheet is left on the other, and vice versa. All waste of material is thus avoided, as well as a great saving of time effected in the manufacture of the bags.

Having now described and particularly ascertained the nature of the said Invention, and the manner in which the same is or may be used or carried into effect, I would observe, in conclusion, that I do not confine or restrict myself to the precise details or arrangements which I have had occasion to describe or refer to, as many variations may be made therefrom without deviating from the principles or main features of the said Invention; but what I consider to be novel and original, and therefore claim as the Invention secured to me by the herein-before in part recited Letters Patent, is,

The application and use of knives or cutters for cutting paper or other materials constructed in the manner herein-before described.

In witness whereof, I, the said James Cox, have hereunto set my hand and seal, the Twelfth day of August, One thousand eight hundred and fifty-four.

JAMES COX. [L. S.]

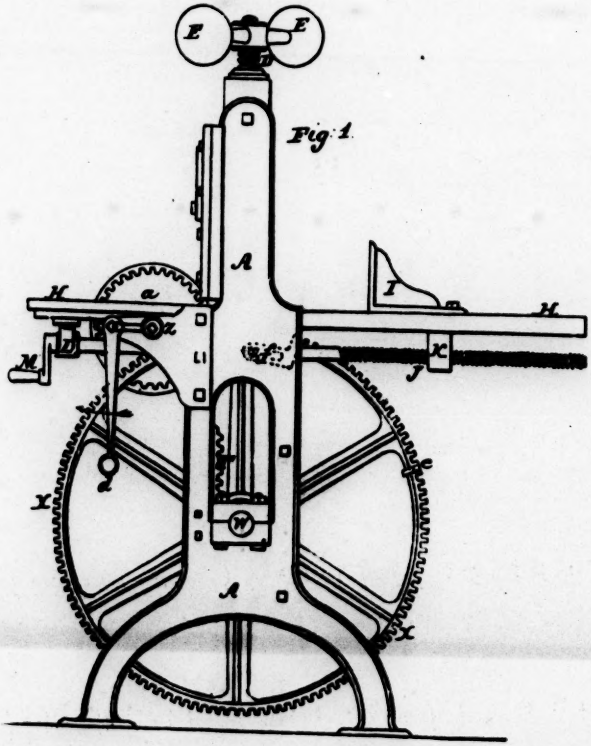


Fig: 1.

Fig: 5.

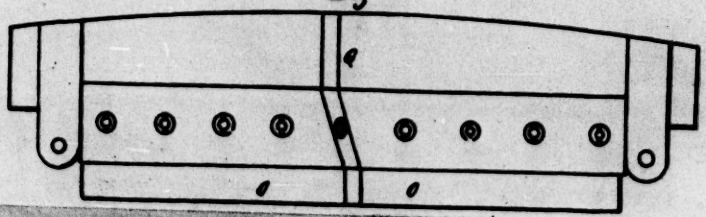


Fig: 6

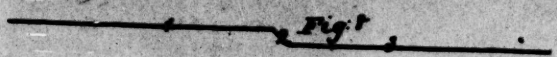


Fig: 7

A.D. 1854. Dec 13. № 347.
COX'S SPECIFICATION.

Fig. 1

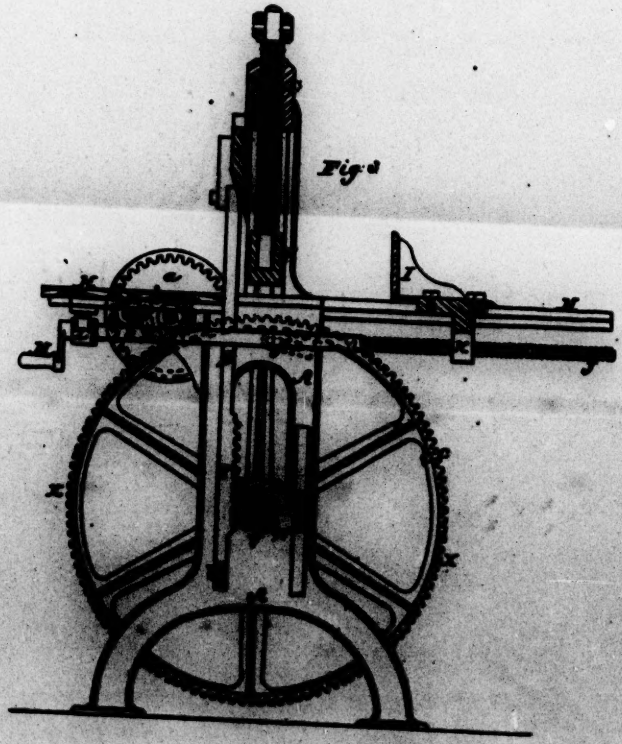


Fig: 2.

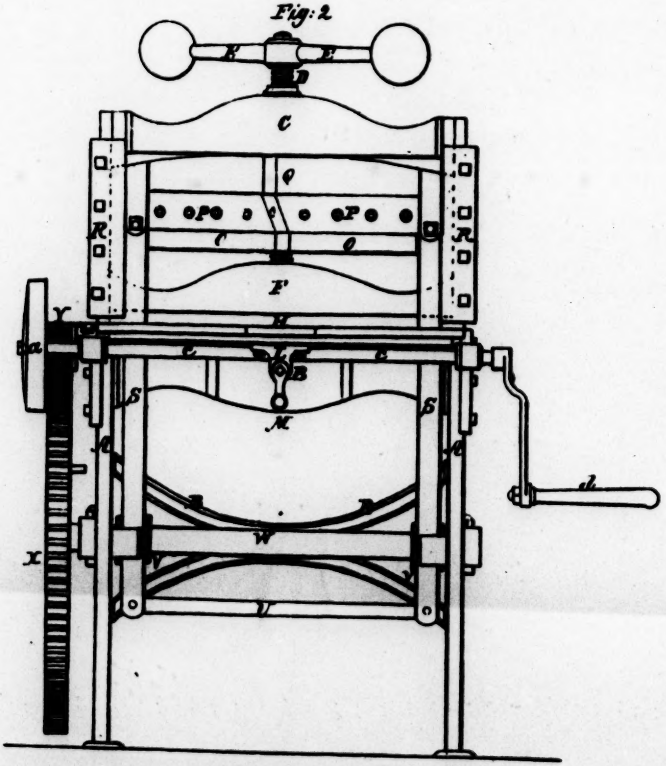


Fig: 4.

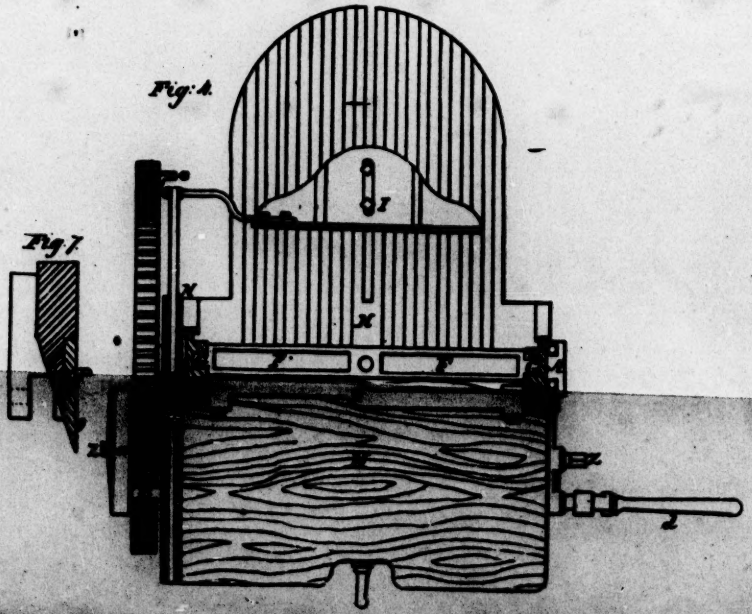


Fig: 1.